



The
**Strategic Center
for Natural Gas**



GAS TECHNOLOGY
INSTITUTE'S
FIRST ANNUAL
CONFERENCE AND
EXHIBITION ON

Natural Gas Technologies

WHAT'S NEW

&

WHAT'S NEXT

September 30–
October 2, 2002
Wyndham Palace Resort
Orlando, Florida

ASSOCIATE SPONSORS



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Over 250 presentations, with new information on Distribution, Distributed Power, Residential, Commercial and Industrial Utilization, Transmission, Emerging Resources, Gas Quality, Environmental Technologies and Odorization.

Panel discussions for each major topic area led by experts from government, industry, and academia.

Valuable peer-to-peer networking at the conference activities—reception, luncheons and refreshment breaks in the exhibit hall.

No other single conference focuses on natural gas technologies—available now—from the wellhead to the burner tip.

CONFERENCE REGISTRATION

Delegate

Save by registering early.

Registrations received by July 1:	\$595
Registrations received July 2-August 15:	\$695
Registrations received after August 15 and on-site:	\$795

Send a team and save even more:

When three or more delegates from the same company register at the same time, a discount of \$100 per person will apply to above fees.

The delegate registration fee includes—

- Entry to all conference sessions and the exhibit hall
- Full breakfast on Monday morning
- Luncheons on Monday and Tuesday
- Reception on Monday evening
- A CD containing all submitted papers

Presenter

Registration fee for the presenter of each paper is \$150. (Additional authors who attend the conference must pay the full registration fee.)

Accompanying Guest

Registration fee:	\$50
With optional Disney tour:	\$125

A guest is a spouse, family member or friend who is not in an industry-related occupation. The accompanying guest registration may not be used by a co-worker or an associate within the industry.

The guest registration fee includes—

- Continental breakfast on Monday and Tuesday in the guest hospitality room
- Conference reception on Monday evening
- Guidance on sightseeing activities at the various Disney theme parks on Tuesday morning in the guest hospitality room

Optional Disney "Behind the Scenes" Tour—Monday, September 30. Coffee and pastries in the guest hospitality room, followed by a 3-hour guided tour where you'll journey to places most Disney visitors never get to see for an incredible, entertaining experience.

Participants of the tour must be at least 16 years old.

HOW TO REGISTER

Complete the Registration Form in the back of this brochure (only one registration per form—please duplicate as needed) and choose one of the following options:

- Mail completed form with check, money order or credit card information to:
NGT Conference Coordinator
Gas Technology Institute
1700 S. Mount Prospect Rd.
Des Plaines, IL 60018-1804 U.S.A.
- Fax completed form with credit card information to: (847)768-0842 (please do not also mail the original registration form).
- Phone our Conference Coordinator at (847)768-0950 with complete registration and credit card payment information.
- E-mail our Conference Coordinator at NGT@gastech.org.
- Online: www.gastech.org (Click on Training & Education, Upcoming Conferences).

Registration forms not accompanied by the registration fee in the form of a check made payable to Gas Technology Institute—NGT Conference, money order, credit card information or copy of bank transfer **will not be processed** until payment is received.

You will receive confirmation of your registration the week of September 9.

Registration Materials

The conference Registration Desk will be open from 3:00 p.m. until 6:00 p.m. on Sunday, September 29. All delegates are encouraged to check in during those hours and pick up their registration materials, including a badge, the agenda, list of participants and conference CD-ROM.

Cancellation of Registration

All registration cancellations must be in writing (letter, fax or e-mail).

- **Delegates:** Full refund of registration fees will be made for cancellations received by September 9. Full refunds, less a \$100 processing fee, will be made for cancellations received between September 10 and September 20. Refunds will not be made after September 20, but a substitute delegate may attend.
- **Accompanying guest:** Full registration refunds will be made on cancellations received by September 20.

Refunds will be processed after the conference.

VENUE AND ACCOMMODATIONS

Natural Gas Technologies will be held at the Wyndham Palace Resort and Spa, 1900 Buena Vista Drive, Lake Buena Vista, Florida 32830.

Rooms are reserved for conference participants at special rates of \$189 single or double, \$209 triple and \$229 quad plus applicable resort fee and taxes. Please contact the hotel directly

by August 29, 2002. Reservations made after that date will be accepted on a rate and space available basis. All reservations require one night's deposit by credit card, check or cash within 10 days of placing the reservation. These rates will apply for those wishing to extend their stay in the Orlando area before or after the conference, based on availability.

To reserve your room, call the hotel directly at (407)827-3333, or (800)WYNDHAM. To receive the special rates, mention that you are attending the NGT Conference. Reservations may also be made online through <http://www.wyndham.com/resorts/mcove/>. The conference code for online reservations is 09577CQ.

The Wyndham Palace Resort is located across the street from Downtown Disney, featuring the Disney Marketplace, Pleasure Island and Downtown Disney's West Side. Conference delegates and their guests will also enjoy the convenience of complimentary continuous transportation to the Magic Kingdom Park, Epcot, Disney-MGM Studios, Disney's Animal Kingdom, Blizzard Beach, Typhoon Lagoon, River Country and all five PGA Championship Disney golf courses. For those driving, self-parking is complimentary. Limited valet parking is available to hotel guests at a cost of \$9 per day with in/out privileges.



As a bonus incentive, Disney is offering all delegates

some great deals on 2- to 5-day Park Hopper® Tickets and After 2pm Tickets. These specially-priced tickets must be purchased by September 13, 2002. Visit <https://secure.hes-services.com/WDWTicket/gastech.asp> for more details and an order form. Take advantage of this special offer to treat yourself to some fun!

GENERAL INFORMATION

- **Badges:** Conference badges for both delegates and guests will be required for admittance to all conference functions.
- **Recommended Dress:** Business casual attire is appropriate for all meetings and social functions. Casual attire and comfortable walking shoes are recommended for the Disney "Behind the Scenes" Tour.
- **Cellular Phones:** As a courtesy to presenters and fellow delegates, please turn off all cellular phones during the technical sessions.

Exhibit and Sponsorship opportunities are still available. See the registration form.

Attend the session of your choice each morning and afternoon. The conference program features nine simultaneous sessions each morning and afternoon on Monday and Tuesday and eight sessions on Wednesday. When you arrive, you will receive an agenda that will list all sessions and a guide as to where and when each takes place.

MONDAY, SEPTEMBER 30

Welcome (General Session)

John Riordan, President and CEO, GTI

Rita Bajura, Director, National Energy Technology Laboratory, U.S. DOE

Keynote Speaker: Industry Executive
(To Be Announced)

Conference Mechanics: Paul Reneau,
Manager, Professional Development
Services, GTI, and Conference Chairman

Session 1

TRANSMISSION AND DISTRIBUTION I

Keyhole Technology Advancements in Utility Construction Techniques

Dennis Jarnecke, GTI

Non-Invasive Inspection Method for Unpiggable Pipeline Sections

Scott Lebsack, PetroChem Inspection
Services

Utility Consortium—Developing an Inspection Tool for Unpiggable Transmission Mains

Daphne D'Zurko, New York Gas Group

Remote Field Eddy Current Inspection for Unpiggable Pipelines

Albert Teitsma, GTI

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

Post 9/11 Distribution System Valve Security and Emergency Response

George Benedetti,
The Benedetti Energy Solutions Group

What You Need to Know to Protect SCADA Systems from Cyber-Attack

William F. Rush and
John A. Kinast, GTI

Coffee, Soda, Exhibits

Evaluation of Bomb Blast Effects on Gas Distribution Systems

Robert Torbin and Paul Belkus,
Foster-Miller, Inc., Renny Norman, GTI

Emergency Response to Blowing Gas

Bart Hill, GTI

Gas Coupled Ultrasonic Pipeline Inspection

Albert Teitsma, GTI

Field Installations and Aging Characteristics of PA11 High-Pressure Piping Systems

Dennis Jarnecke, GTI, Hitesh V. Patadia,
RHP Associates, Richard Wolf, Atofina

Panel Discussion

GTI Reception and Exhibits

Session 2

TRANSMISSION AND DISTRIBUTION II

Plastic Pipe Location Using Frequency Stepped Ground Penetration Radar

William J. Steinway and Colin Snyder,
CyTerra Corporation, Waymond R. Scott,
Jr., Georgia Institute of Technology

Use of Thermally Sprayed Resistive Traces for Detection and Location of Damage in Natural Gas Pipelines

Robert Carrington, Karen A. Moore,
and John Richardson, Idaho National
Engineering & Environmental Laboratory,
Rodney Anderson and Daniel Driscoll,
National Energy Technology Laboratory

A Practical Method for Installation of Optical Fiber Cable in Metropolitan Area Gas Distribution and Service Pipelines

Scott Beals, Semptra Fiber Links, Inc.

Fiber Optic Cables in Live Gas Mains

Paul W. Beckendorf, GTI

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

Hydrogen Diffusion Through Plastic Pipes

Frans Scholten, Gastec IP, Mannes Wolters,
Gastec IE and University of Twente

Performance of New-Type Corrosion- Resistant Bellows and Application in Heat Exchanger

Yu-fei Tan and Jia-xin Chen, Harbin
Institute of Technology, Ming-qing Yan,
North China Municipal Engineering Design
and Research Institute

Coffee, Soda, Exhibits

Polyethylene and Ductile PVC: Two Plastic Pipe Materials Suitable for Gas Distribution Systems

Mannes Wolders, Gastec NV and
University of Twente

Corrosion and Coating Tests to Help Ensure Pipeline Integrity

Daniel Ersoy, GTI

Development of a Live Internal Cast Iron Bell Joint Sealing System

Anthony Winiewicz, Innerseal,
and Dennis Jarnecke, GTI

Isolating Flow Conditioners

James E. Gallagher and Michael P. Saunders,
Savant Measurement Corporation

Panel Discussion

GTI Reception and Exhibits

Session 3

TECHNICAL SPECTRUM

Theoretical and Numerical Analysis on Discharge Coefficient on Critical Sonic Nozzles ISO-9300 with Turbulent Boundary Layer

F. Sanchez Silva, J. A. Cruz Maya, A. Gomez
Mercado, and G. Tolentino Eslava, Institute
Polytechnic National—Mexico

Mobile Wireless Technologies and Gas Utilities

Boris Mladjen, Enbridge Consumers Gas

Temperature-Usage Graph for Predicting Monthly Residential Gas Usage

Thomas Broderick, Citizens Arizona Gas

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

Composite Drill Pipe: An Enabling Technology for Extended Reach and Deeper Water Drilling

James C. Leslie, Advanced Composite Products and Technology, Inc.

The Role of Mexico's Polytechnic Institute in Natural Gas Training Activities

Francisco Camano Domingez,
Escuela Superior de Ingenieria Quimica

Coffee, Soda, Exhibits

Liquid Foam Insulation Technology for Improving Energy Efficiency in Greenhouses

David Furdas, Enbridge Consumers Gas

A Development for Safely Reducing Surge Margins in Centrifugal Compressors

Robert J. McKee, Southwest Research Institute

Effect of Pressure Profiling on Gas Losses

Faizullah Abassi, Sui Southern Gas Company Ltd.

An Economical Process for the Utilization of H₂S from Natural Gas Upgrading Operations

Rachid B. Slimane, Francis S. Lau, and Remon Dihu, GTI

Panel Discussion

GTI Reception and Exhibits

Session 4

COMBUSTION I

Development of an Innovative Energy-Efficient High-Temperature Natural Gas-Fired Retort Furnace

Vijay C. Shroff and H. Kenneth Staffin, Procedyne Corporation

"Flameless Oxidation" Applied in High-Temperature Process Overview on Gaz de France R&D Activities on the Subject

Alain Quinqueneau, Gaz de France

Laser-Spark Ignition for Natural Gas-Fueled Reciprocating Engines

Michael McMillian, Phouc Tran, Steve Woodruff, John Ontko, and Steve Richardson, National Energy Technology Laboratory

Laser-Based Ignition for Reciprocating Natural Gas Engines: Preliminary Experimental Study

Sreenath Gupta, Raj Sekar, Claude Reed, and Zachary Xu, Argonne National Laboratory

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

Enhancing Turbo Expander's Efficiency at High Capacity

S. Chakraborty, Oil and Natural Gas Corporation Ltd. (India)

Two New Radiant Burners and Their Demonstration in Infrared Processes

Isabelle Alliat and Norbert Demarchi, Gaz de France

Coffee, Soda, Exhibits

Concrete Curing with Combined Intensity Natural Gas-Fired Infrared Heaters

David Furdas, Enbridge Consumers Gas

Infrared (IR) Test Facility Development

Matthew Fayerman, GTI

Case Histories of Three Industrial Cogeneration Projects from Conception Through First Two Years of Operation

Joseph E. Turk, PWI Energy

Options for Maximizing Fuel Efficiency in Cogeneration

V. Ganapathy, ABCO Industries

Panel Discussion

GTI Reception and Exhibits

Session 5

ODORIZING I

Operator Qualification as it Applies to Common Issues Identified from an Operator's and Regulator's Perspective

O. G. McClinton, Jr., Transportation Safety Institute, U.S. DOT

Odorization Training Program to Satisfy Operator Qualification Requirements

David Bull, Taurus Risk Management

Case Study: Comparison of Regulations Governing the Safe Use of Natural Gas in Argentina and the U.S.

Sixto Ortiz, Jr., Chevron Phillips Chemical Company

Methods to Determine Proper Odorization of Natural Gas

Paul Wehnert, Heath Consultants

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

OMD™: Accounts from the Field—Panel Discussion—Part I

George Ragula, Public Service Electric & Gas Company (New Jersey), Allen Peterson, New York State Electric & Gas Corporation, Steve Reiswig, Pacific Gas & Electric Company, Paul Wehnert, Heath Consultants, Inc.

OMD™: Accounts from the Field—Part II

Coffee, Soda, Exhibits

Propane Odorant Blends: Panacea or Mythology?

John Roberts, EFI

Panel Discussion

GTI Reception and Exhibits

Session 6

GAS QUALITY AND ENERGY MEASUREMENT I

Effects of Line Pressure on Turbine Meter Calibration and Accuracy

Darin L. George, Southwest Research Institute

Topics Regarding Ultrasonic Flow Meter Performance in Natural Gas Pipeline Applications

Terrence A. Grimley, Southwest Research Institute

Re-calibration Results for Ultrasonic Meters After Six Years in Service

Warren Peterson, TransCanada Pipelines, Ltd.

Fundamentals of Gas Chromatography, Gas Quality, and Troubleshooting

Myles J. McDonough, Chandler Engineering Company, LLC

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

Natural Gas Quality Determination with Microsensors

Peter Schley, Ruhrgas AG

Determination of Mercury in Natural Gas Using Portable and Continuous Monitoring Instruments

Michael Markelov and Olga Bershevits, Mercury Analytical Center

Coffee, Soda, Exhibits

A New Approach to Sense Gas Composition and Trace Contaminants

Ulrich Bonne and R. E. Higashi,
Honeywell Laboratories

The GQ™-1000 Gas Quality Sensor

Dan Peace, Invensys Metering Systems

Panel Discussion

GTI Reception and Exhibits

Session 7

**ENVIRONMENTAL AND
SITE REMEDIATION I**

Fixed-Price Remediation of a Former MGP Site

Ed Coggin, Biogenie

Materials Management Strategy for MGP Residuals in the Public Right-of-Way

Spiro Fafalios, Natural Resource Technology, Inc., and Art Covi, Wisconsin Electric Corporation

Zero-Purge Groundwater Sampling for Semi-volatile Organic Compounds at an MGP Disposal Site

Allan C. Fernandes, PECO Energy Company, and John Roberts, Jacques Whitford Company

Using Matrix Constituent Separator to Treat MGP Impacted Soils and Carbonaceous Materials—A Treatability Study

Allan C. Fernandes and Bryan R. Sladky, PECO Energy Company, James V. Huster and Douglas Kier, URS Corporation, Thaddeus J. Kuzniar, IR Systems International

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

Vapor Pressure Characterization to Predict Contaminant Release Rates from MPG Site Soils

Thomas Hayes, Bhupendra K. Soni, Vipul J. Srivastava, and Satya N. Varadhi, GTI

Treatability of MPG Soils with Cleanup Pentanonic

Andreas Jazdanian, Donald Schilling, and Larry Milner, Burns & McDonnell; Christopher Szela, and Steve Matuszak, Peoples Energy, Krishna Reddy, University of Illinois, Bob Psaradellis, Mitsubishi International Corporation

Coffee, Soda, Exhibits

Sediment Characterization at Former MGP Sites: Cost, Technical and Environmental Liability Considerations

Timothy Morris, ENSR International

Treatability Evaluation of Separation Techniques in the Treatment of MPG Groundwater for the Removal of Iron Cyanide

Thomas Hayes, Bhupendra K. Soni, and Amy Scamoffa, GTI

Characterization of the Equilibrium and Rate-Limited Aqueous Release of BTEX and PAHs from MPG Site Soils

William G. Rixey, University of Houston

Panel Discussion

GTI Reception and Exhibits

Session 8

**ENVIRONMENTAL AND
SITE REMEDIATION II**

The Key Issue for Managing Environmental Systems

Abdelaziz Benhamadi, Sonatrach

Sediment Management: A Risk-Based Approach

Satya N. Varadhi, Bill Bogan, and Vipul J. Srivastava, GTI

NEPA in Public Relations and Community Outreach Programs

Jacob I. Bregman and Robert Edell, Bregman & Company, Inc.

Optimizing Technology Selection and Remedial Design Through Laboratory Treatability Testing

Ed Coggin, Biogenie, Inc.

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

Remediation of Utility-Owned PCP-Contaminated Wood Pole Storage Sites

Richard Corbin, Biogenie, Inc.

Non-oxidative Destruction of TNT, RDX, and HMX on Contaminated Soil Using Subcritical (Hot/Liquid) Water

Steven B. Hawthorne, Arnaud J.M. Lagadec, Dimistrios Kalderis, Alan V. Lilke, and David J. Miller, University of North Dakota

Coffee, Soda, Exhibits

Why Didn't It Work? Three Case Studies of Apparent In-Situ Chemical Oxidation Failures and What the Sites Were Screaming to Reveal!

William L. Lundy, BMS, Inc.

Returning Utility Properties to the Community

David Harnish, Pacific Gas and Electric Company

Panel Discussion

GTI Reception and Exhibits

Session 9

EMERGING RESOURCES I

Gas Hydrates of Northern Alaska

Timothy S. Collett, U.S. Geological Survey

High-Frequency Electromagnetic Technology in Exploitation of Gas-Hydrate Accumulations

Fanil L. Saykakhov and Irina G. Nizaeva, Bashkir State University

Perspective Recovery Processes on Urengoy Gas-Condensate Field

V. A. Istomin, R. S. Suleimanov, G. A. Lanchakov, A. N. Kulkov and V. A. Stavitskii, VNIIGAZ

Generation of a Source of Renewable Energy (Methane) and Controlling Global Warming

S. Chakraborty, Oil and Natural Gas Corporation Ltd. (India)

Panel Discussion

Luncheon

Speaker: David K. Garman, U.S. DOE*

Zoning of Oil/Gas-Bearing Territories According to Their Current Tectonism Intensity on the Basis of Satellite Image Data Processing (West Siberia)

N. N. Soloviev, V. A. Kuzminov and L. S. Salina, VNIIGAZ

A Membrane-Based Process for the Upgrading of Biogas and Landfill Gas to Substituted Natural Gas (SNG) and Recovery of Carbon Dioxide for Industrial Use

Birgir Norddahl and Jan du Preez, Southern Danish University

Coffee, Soda, Exhibits

Removing Liquid from Gas Wells by "Well Shuttles"

I. V. Shulyatkov, L. P. Malovichko, A. G. Pristansky, V. I. Shulyatkov, S. N. Sidorov, S. A. Sidorova and A. S. Ushakov, VNIIGAZ

Project of Underbalance Foam Drilling to Explore Coalbed Methane in Kuzbass Basin of Russia

K. M. Tagirov, Sevkavnipigaz, A. N. Gnoevykh, A. A. Ryabokon, and V. I. Kirshin, VNIIGAZ

Panel Discussion

GTI Reception and Exhibits

Session 1

TRANSMISSION AND DISTRIBUTION III

Coffee and Exhibits

Determining the Full Cost of a Gas Pipeline Incident

Keith Leewis, GTI, and Bernd Selig, Hartford Steam Boiler

The Heath Optical Methane Detector: A Field Comparison to the Flame Ionization Unit

Allen Peterson, Daniel Wiser, and Ronald Kopalek, NYSEG Energy Technology Group

Successful Use of Palm and PC for Field Leak Survey Data Collection and Tracking

Robert Getman, AGL Resources, Inc., and Randy Moss, Southern Cross Corporation

Remote Methane Leak Detector (RMLD)

Angelo Fabiano, New York Gas Group

Coffee and Exhibits

Development of a Gas Leak Simulator for Operator Qualification Training

Allen Peterson, Daniel Wiser, and Ronald Kopalek, NYSEG Energy Technology Group

Buried Pipeline Mapping and Pipeline Leak Detection

Gary J. Weil, EnTech Engineering, Inc., Donald R. Denman, Union Pacific Railroad Company

A Portable Remote Methane Detector Using a Tunable Diode Laser

Takaya Iseki, Tokyo Gas Company, Ltd.

Panel Discussion

Luncheon

Speaker: Japan Gas Association

Glide—A New Portable Gas Leak Detection Instrument

R. Pride and J. Hodgkinson, Advantica, S. Sutton, Siemens SESL

Development of an Electrofusion Repair Sleeve for Damaged PE Pipe

George Vradis, Polytechnic University/ New York Gas Group, Robrecht Franck, RYF International, Ralf Lange and Werner Hintzen, DA-Export and DA-Kunststoff

The Manibs Electrofusion Repair Sleeve: A Preliminary Test for the Repair of Damaged or Leaking PE Pipe

Allen Peterson and Daniel Wiser, NYSEG Energy Technology Group

Coffee, Soda, Exhibits

Modified Slip-Lining Processes for Gas Pipeline Rehabilitation and Renewal

Mark Hoffman, Thames Water Services Ltd.

CIP Liners—Handling Tough Situations in Gas Operations

Allen J. Spivey, GTI

The Use of Composite Reinforced Line Pipe for High-Pressure, Onshore Pipelines

Tom Zimmerman, C-FER, Gary Stephen and Alan Glover, TransCanada PipeLines

Panel Discussion

Session 2

TRANSMISSION AND DISTRIBUTION IV

Coffee and Exhibits

Emergency Pipe Squeezer by Gaz Metropolitain and Timberline Tool

Paul Mitnyan, Gaz Metropolitain, Ken Green, Timberline Tool

PE Repair Service

Bart Hill, GTI

Third-Party Damage Prevention System

Yukinobu Miyamoto, Tokyo Gas Company, Ltd.

Data Processing Method for Third-Party Damage Prevention System

Michihito Shiraishi, Shimizu Corporation

Coffee and Exhibits

Vortex Technology in Gas Pressure Control

Lev Tunkel, Universal Vortex, Inc.

Development of a Tool for the Sampling of Gas Pipelines for PCBs Under Live Conditions

Mario Carbone, Keyspan Energy Corporation, George Vradis, Polytechnic University/NYGAS

Multi-Directional Impact of System Loss in Natural Gas Distribution

Delaaware Bakht, Bangladesh Gas Fields Company, Ltd.

Panel Discussion

Luncheon

Speaker: Japan Gas Association

Utility Construction Methods Selection Guide

Stu Knoke and Rick Tidball, Energy International, Inc., Allen Spivey, GTI

A Study on the Hydrate Plugging Formation and Its Control in PNG Transmission

Jeong-Hwan Lee, Korea Gas Corporation

Inspection of Metallic Gas Mains Using the Remote Field Eddy Current Technique

David Neville and John Burd, Advantica

Coffee, Soda, Exhibits

Innovation in Gas Networks

Mannes Wolters, Gastec NV and University of Twente

Risk Management of Gas Distribution Systems

R.J.M. Hermkens, H. van Bruchem, A.J.M. van Wingerden, and C.J.A. Pulles, Gastec NV

Planned Demonstrations in the U.S. for Rehabilitation of High-Pressure Gas Pipelines with an MAOP of up to 250 psi Using a Certified Fabric Hose Relining System

Andreas Huettemann, Karl Weiss GmbH & Company

Panel Discussion

Session 3A

LNG

Coffee and Exhibits

Heavy Duty Revolution: An Overview of HD LNG Vehicle Fleet Projects

George W. Kalet, NexGen Fueling, Inc.

An Object-Oriented Program Development for Establishing Optimum Operation Scheme of Multiple LNG Terminals

Seungyong Chang, Korea Gas Corporation

Design, Siting, Economics of Pre-engineered and Pre-manufactured Natural Gas Interconnect Facilities and LNG Facilities

Tom Quine, Northstar Industries, Inc.

Small LNG Liquefier Development

Mark Perry, William Liss, and Ken Kountz, GTI

Coffee and Exhibits

Interchangeability of Natural Gas and Vaporized Liquefied Natural Gas (LNG)

M. Frank G. Johnson, Vasilios Soupos, and David Rue, GTI

Assessing the Availability of LNG Regasification Plants Using the OPTAGON Package

Mark Rogers, Advantica

Algerian LNG Chain Reliability Modeling Using Systemic Approach and Bayesian Inference

Abdelnacer Smati, University of Boumerdes

Panel Discussion

Luncheon

Speaker: Japan Gas Association

Session 3B

TRANSMISSION AND DISTRIBUTION V

Ultrasonic Noise Acoustic Filters

James E. Gallagher and Michael P. Saunders,
Savant Measurement Corporation

Analysis of Stresses Around Pipes in Utility Cuts

Khalid Farrag, GTI

Field Demonstration of an Automated Mapping System

Gerard T. Pittard, Maurer Technology, Inc.,
Kiran Kothari, GTI, and Gene Crawford,
Memphis Light, Gas & Water Division

Coffee, Soda, Exhibits

Micro-Excavation

Mandy Ross, GTI

The GTI Testing Facility for Reinstated Pavement Sections

Khalid Farrag, GTI

Connection of Services Using an In-Pipe Robot

David Neville and John Burd, Advantica

Panel Discussion

Session 4

COMBUSTION II

Coffee and Exhibits

High-Luminosity, Low-NO_x Oxy-Natural Gas Burner for Glass Furnaces

David M. Rue, Serguei A. Nester, and
Hamid A. Abbasi, GTI

NO_x Reduction Catalyst System for Lean-Burn Gas Engines

Toru Matsui and Masaki Hondo, Tokyo
Gas Company, Ltd., Masataka Masuda,
Osaka Gas Company, Ltd., Fumio Okada,
Toho Gas Company, Ltd., Toru Nakazono,
Yanmar Diesel Engine Company Ltd.,
Shogo Matsubayashi, Yanmar Diesel
Engine Company, Ltd.

Methane de-NO_x[®] Reburn Technology for Stoker Boilers

Stan Wohadlo, GTI

New SCR Catalysts for High NO_x Reduction on Gas-Fired Combustors

Robert Gazarov, Gubkin University of Oil
and Gas, Evgeny Dedikov and Michail
Kudravzev, VNIIGAZ

Coffee and Exhibits

Economic Analysis of Natural Gas-Fired Absorption Air Conditioner

Xu Yongsheng, Tianjin Urban Construction
Institute

Forced Internal Recirculation (FIR) Burner Technology for Ultra-Low NO_x Boiler Performance

David Cygan, Joseph Rabovitser,
Rick Knight, and John Pratapas, GTI

Gas-Fired Unitary Climate Control Via Advanced Ammonia-Water Absorption

Uwe Rockenfeller, Rocky Research

Panel Discussion

Luncheon

Speaker: Japan Gas Association

New Injection System for Residential Appliances with Natural Aspiration

Guido Dubielzig, Gaswarne-Institut
e.V. Essen

Performance Monitoring of an Integrated Microturbine, Hot Water, Absorption Chiller System

Calin Tarau and George Vradis, Polytechnic
University, Mike Smalec, Southern
Connecticut Gas Company

Gas-Fired Commercial Crossflow Convection Oven

Tim Cole, GTI, and Dave McFadden,
DDM Consulting

Coffee, Soda, Exhibits

Development of a Boilerless Gas-Fired Commercial Steamer Cooker

M. Frank G. Johnson and Tim Cole, GTI,
M. Colburn and S. Bogner, Colburn Treat

Oscillating Combustion Technology

John Wagner, GTI

Linear Eddy Subgrid Modeling of Lean Premixed Methane-Air Combustion

Steven M. Cannon, Baifang Zuo, and
Clifford E. Smith, CFD Research Corporation

Panel Discussion

Session 5

ODORIZAION II

Coffee and Exhibits

Leak Calls Analysis and the Consequences of Over-Odorization

John Jacobus, EFI

Adsorption of Odorants on Clay and Organo-Clay: A Few Surprises with Operational Implications

Thomas J. Bruno, National Institute
of Standards and Technology

Methods for Rapid and Accurate Quantitative Assessment of Olfactory Function

Richard P. Doty, Smell & Taste Center,
University of Pennsylvania School of
Medicine

A Comparative Analysis of the Methods for Analysis of Organic Sulfur Compounds (Odorants) in Natural Gas

William T. Fitzgerald, Laclede Gas Company

Automated On-Line Monitoring of Volatile Sulfur Compounds for Environmental and Industrial Applications

Phillippe Verdeguer, Chromato-Sud

Coffee and Exhibits

A New and Completely Automated System for Determination of Sulfur Content in Natural Gas

Laura Chambers, OI Analytical

Odorant Spill Emergency Response Plan

Mark Zeck and Jan Strmen, Material
Resource Recovery, Inc.

No Such Thing as an Empty Tank

James Wilson, Wilson Technical Services

Panel Discussion

Luncheon

Speaker: Japan Gas Association

Installing a State-of-the-Art Odorization Process

Armand Masse, Washington Gas

By-Pass Odorization: an Operational Perspective

Michael Heck, Federation of Alberta Gas
Co-ops

On-Line Odorant Monitoring

Michael McKay, OdorEyes Technologies, Inc.

Coffee, Soda, Exhibits

Odorization Systems at Rochester Gas & Electric Company

Frank Ferland and John C. Breitung,
Rochester Gas & Electric Company

Panel Discussion

Session 6

GAS QUALITY AND ENERGY MEASUREMENT II

Coffee and Exhibits

Devices for Water Vapor and Hydrocarbon Dew Point Determination

Myles J. McDonough, Chandler
Engineering Company LLC

Hydrocarbon Dewpoint Monitoring of Natural Gas Using On-Line Gas Chromatographs

Kevin Ernest, Daniel Measurement & Control

Water and Hydrocarbon Dew Points Analyzer Kong-Prima-4: Application in the Gas Industry

Alexander M. Dereviaguine, NPF

Coffee and Exhibits

Considerations for Gas Sampling and Gas Sampling Systems

David J. Fish, Welker Engineering

Sample Conditioning of Natural Gas for Automated Analysis

Donald P. Mayeaux, A+ Corporation

Natural Gas Sampling Research Project Update

Eric Kelner, Southwest Research Institute

Panel Discussion

Luncheon

Speaker: Japan Gas Association

Energy Flow Measurement with Correlative Method

Johan Bats, Instromet International

The Development of an Inferential Approach to Natural Gas Energy Measurement

Eric Kelner, Southwest Research Institute

Correction Integrity and Measurement Uncertainty

Mike Heck, Federation of Alberta Gas
Co-Ops Limited

Coffee, Soda, Exhibits

Solid State Electronic Energy Measurement: Emerging Technologies Worth Knowing About

Daniel A. Zimmerman, Reynolds
Equipment Company

Panel Discussion

Session 7

ENVIRONMENTAL AND SITE REMEDIATION III

Coffee and Exhibits

Evaluation of Source Removal and Natural Attenuation Remediation Strategies at Three MGP Sites in Wisconsin

James W. Lingle, Wisconsin Electric Power
Company, and Kevin L. Brehm, STS
Consultants, Ltd.

Commercial Availability of Gas Chroma- tographs for Field Use at Former MGP Sites

Anthony M. Socco, ENSR

Mobility and Bioavailability of Aromatic Hydrocarbons in Lamp Black MGP Soils

Thomas Hayes, Vipul J. Srivastava,
James R. Paterek, Bhupendra K. Soni,
and Amy Scamoffa, GTI

New Jersey's Natural Resource Damages Program and Its Effect on MGP Site Remediation

Jeffrey L. Duncan, Haley & Aldrich, Inc.

Coffee and Exhibits

Strategic Assessment and Planning Leads to Successful and Cost-Effective Remedia- tion of a Former MGP: A Case Study

James Adamik, Northeast Utilities Service
Company, and William A. Baker IV,
Metcalf & Eddy

Reduced Benthic Organism Diversity and Density in Lake Champlain Sediments Downstream of a Former MGP Plant

Jerry Zak, GEI Consultants,
and Tracy Blazicek, NYSEG

Evaluation of the Effectiveness of In-Situ Solidification at the Columbus MGP Site (A Ten-Year Evaluation)

Darahyl Dennis, Georgia Power Company

Panel Discussion

Luncheon

Speaker: Japan Gas Association

NRDA Liability at Former MGP Sites: What are the Key Issues?

Timothy Morris, ENSR International

Technical and Logistical Challenges of Removing Consolidated MGP Tar Deposits from a Riverine Environment

Paul J. Boison, Northeast Utilities Service
Company, and William C. Heiple,
Metcalf & Eddy

Assessing the Distribution of MGP Residuals in Cayadutta Creek Sediments— Matching the Tools to the Site

Steven Stucker, Niagara Mohawk, and
Stuart D. Messur, Blasland, Bouck & Lee, Inc.

Coffee, Soda, Exhibits

Case History: Ex-Situ Remediation of an Adjacent Property Impacted by Former MGP Operations

Thomas N. Effinger, SCANA Services, Inc.

Comparison of Air Monitoring and Odor Assessment Methods at a Former MGP Site

Ash Jain, EPRI, Bill Hoynack, Northeast
Utilities Service Company, Dennis Unites,
Terry Taylor, and Mike Marando,
GEI Consultants, David Mauro,
META Environmental

Perimeter Air Monitoring at MGP Sites

Gary T. Hunt, TRC Environmental
Corporation

Availability of BTEX and PAHs in MGP Site Soils

Steven B. Hawthorne, Carol B. Grabanski
and David J. Miller, University of South
Dakota, Joe Kreitinger, Cornell University,
Dustin G. Poppendieck and Raymond C.
Loehr, University of Texas

Panel Discussion

Session 8

ENVIRONMENTAL AND SITE REMEDIATION IV

Coffee and Exhibits

Remediation of Benzene Under a CTA Bus Stop Near Downtown Chicago

William L. Lundy, BMS, Inc., and
Patrick Clarke, Patrick Engineering, Inc.

Developing Environmentally Acceptable Endpoints (EAEs) for Sediments

C. A. Menzie and S. B. Kane Driscoll,
Menzie-Cura & Associates, Inc.

Real-Time Field Verification of Distribu- tion Portland Cement During In Situ S/S Operations

Alex Silva, Williams Environmental Services,
Inc.

Coffee and Exhibits

Measurement of Signature Metabolites at Hydrocarbon Release Sites as Components of Natural Attenuation

David M. Mauro, META Environmental

Investigation of the Stability of PAH Patterns During Environmental Weathering

Diane Saber, GTI, and David M. Mauro, META Environmental

Thermochemical Solidification: Large Laboratory Testing and Scaleup

Bhupendra K. Soni, Thomas Hayes, and Vipul J. Srivastava, GTI

Panel Discussion

Luncheon

Speaker: Japan Gas Association

Using Environmental Regulatory Requirements to Target Coalbed Methane Technology Development

Deborah Elcock and John Gasper, Argonne National Laboratory

Determination of Siloxanes in Air Using Methanol-Filled Impingers and Analysis by Gas Chromatography/Mass Spectrometry (GC/MS)

Sepideh Saeed, Sandia Kao, and Guy J. Graening, Air Toxics, Ltd.

Characterization of Microbial Communities in Gas Industry Pipelines

John J. Kilbane II, Kevin J. Kayser, Ho-Shin Park, and Xiangyan Zhu, GTI

Coffee, Soda, Exhibits

Pipelines Sessile Microorganisms Control Using Commercial Biocides

N. J. Goncalves, E.F.C. Servulo, and F. P. deFranca, Universidade Federal do Rio de Janeiro

Viable Reuse for a Remediated Site—Jerry Morgan Memorial Park, City of Long Branch, New Jersey

Neil P. Jiole, Schoor DePalma

Who Should Attend? You! You're a decision-maker in the energy field seeking new technology solutions to help grow your business, increase your bottom line, and provide better service to your customers.

Soil-to-Sediment: The Impact of Water on the Chemical Accelerated Biotreatment

J. Robert Paterek, Vesna Trbovic, and Tanita Sirivedhin, GTI

Panel Discussion

Session 9

EMERGING RESOURCES II

Coffee and Exhibits

CO₂ Utilization Using GTL Technology in West Jambi Gas Field, Indonesia

A. Hanif, S. A. Putra and C. Briantoro, PERTAMINA

Peculiarities of Hydrocarbons and Water Behavior at Tight Gas Reservoirs

R. M. Ter-Sarkosov and V. M. Buleik, VNIIGAZ

Pathways to a Hydrogen Society

E. A. Polman, Gastec NV

Improving Gas Well Drilling and Completion with High Energy Lasers

Robert W. Siegfried, John Castagna, and Shengjie Sun, GTI

Coffee and Exhibits

An Advanced Scheme for Processing the Paraffin-Rich Gas Condensate

S. V. Shurupov and N. N. Koslenko, VNIIGAZ, M. A. Kudryavtsev and M. P. Lapshin, Sosnogorsk Gas Processing Plant

Cements and Well Cementing in the Arctic Zone of Russia

A. A. Klysov and V. A. Klysov, VNIIGAZ, A. A. Ryabokon, VNIIGAZ

Control Jet Injector

L.D. Nitipin, North Gaz and L.M. Kurbatov, VNIIGAZ

Panel Discussion

Luncheon

Speaker: Japan Gas Association

Using Hydraulic Power Recovery Turbine to Recover Pressure Energy of High-Pressure Rich Solution of Gas Sweetening Plant

S. Chakraborty, Oil and Natural Gas Corporation Ltd. (India)

Application of Enhanced Spectral Processing (ESP) to Emerging Gas Resources

Robert W. Siegfried, John Castagna, and Shengjie Sun, GTI

Natural Gas Dehydration Using Gas/Liquid Membrane Contactors

Howard S. Meyer, Raj Palla, GTI and O. Falk-Pederson, KPS

Coffee and Exhibits

Large Scale Demonstration of Morpho-sorb Technology on Natural Gas Treating

Dennis Leppin, Raj Palla and Aqil Jamel, GTI

Panel Discussion

Session 1

TRANSMISSION AND DISTRIBUTION VI

Coffee and Exhibits

Two-Layer Lining Method (New Rehabilitation Method for Gray Case Iron Pipe)

Seita Shimizu, Tokyo Gas Company, Ltd.

Unique Cathodic Protection Design: Transmission Pipeline Coating Test Facility—A Case Study

David D'Ambrosio, GTI

Field Comparison of the Clegg Impact Hammer to the Nuclear Density Gauge for the Measurement of Utility Backfill Compaction

Allen Peterson, Daniel Wisser, and Ronald Kopalek, NYSEG Energy Technology Group

Evaluation of the Use of Flowable Fill in Trench Backfill

Khalid Farrag, GTI

Coffee and Exhibits

Status of Right-of-Way Encroachment Detection and Third-Party Damage Detection

James E. Huebler, GTI

Capacitive Tomographic Sensor for the Detection, Location, and Imaging of Sub-Surface Non-Metallic Pipes

Brian Huber and Chris Ziolkowski, GTI

Development and Testing of Magnetic Detectable PE Pipe

Dennis Jarnecke, GTI

Panel Discussion

Session 2

TRANSMISSION AND DISTRIBUTION VII

Coffee and Exhibits

Service Pipe Splitting

Bart Hill, GTI

Applying New Technologies to Utility Coordination and Facility Design

Brian Camfield, PECO Energy

Outsourcing Gas Engineering: A Viable Alternative?

Edward J. Sawicki, Schoor Depalma, and Robin Persad, Public Service Electric & Gas

Advanced Technologies for Obstacle Detection During Directional Drilling Operations

Kiran M. Kothari, GTI

Coffee and Exhibits

Weld Zone Inspection Method

Angelo Fabiano, New York Gas Group

Reliability of Pressure Safety Alarms (PSLs) in Offshore Gas Transmission Pipelines

Shari Dunn-Norman, Kelvin Erickson, Ann Miller, and Keith Stanek, University of Missouri

Result from 20 Years of Research on Interior Gas Distribution Technologies

Robert Torbin, Foster-Miller, Inc.

Panel Discussion

Session 3

CNG/NGV

Coffee and Exhibits

Competitive Market Advantages of CNG Forklifts Over Propane Forklifts

James Grambihler, Gordon Larsen, and Wayne Gelder, Questar Energy Services

Dynamic Tests of CNG and Diesel-Fueled Buses at High Altitude

Jose Ignacio Huertas and Diego Alejandro, Universidad de los Andes

Introducing Natural Gas Vehicles to a Mid-sized Market (Successes and Challenges of the We Energies Natural Gas Vehicle Program)

Gary Evans, We Energies, and Sue Folz, Opinion Dynamics Corporation

The Future Development of CNG Business in Indonesia

Eko Hariadi, PERTAMINA

Coffee and Exhibits

Development of the Colombian NGV Program

Andres Gonzales and Jose Ignacio Huertas, Universidad de los Andes

Panel Discussion

Session 4

COMBUSTION III

Coffee and Exhibits

Appliance Codes and Standards

Robert Hemphill and David Kalensky, GTI

Low-Capacity Heating Equipment

David Kalensky and Robert Hemphill, GTI

Low-Cost Condensing Water Heater

Robert J. Hemphill and Shawn Scott, GTI

Development of a Residential Gas Furnace Heat Exchanger

Shailesh S. Manohar and Michael L. Brown, Carrier Corporation

Coffee and Exhibits

Guidelines for Sizing and Installing Combination Space-Heating/Water-Heating Systems

Robert J. Hemphill and David C. Kalensky, GTI, S. G. Talbert, R. L. Osborne, J.P. Solan, and F. E. Jakob, Battelle Columbus Laboratories

Two New Products for Exhaust Air Purification

Frederic Milcent, Gaz de France

Panel Discussion

Session 5A

FUEL CELLS

Coffee and Exhibits

Redesign of Proton Exchange Membrane

T. L. Balasubramanian, College of Engineering Guindy

Fuel Cell Gas Appliances in Europe: Standards as a Key Element for Market Introduction

Frank Groeschl, DVGW Deutsche Vereinigung des Gas-und Wasserfaches e.V.

Natural Gas Reformer-Based Hydrogen Fueling Station Modeling

Mark E. Richards, William Liss, and Ken Kountz, GTI

Fuel Cell Case Study—Nitrogen the Sleeping Giant

Dave DeBoer, Metropolitan Utilities District, and Dennis Hughes, First National Bank of Omaha

Coffee and Exhibits

Session 5B

TRANSMISSION AND DISTRIBUTION VIII

Advancements in Horizontal Directional Drilling (HDD) Weak Links for No-Dig Technologies: The Tow Tension Monitoring Tool

Max Kieba and Chris Ziolkowski, GTI

Don't forget to visit the exhibition! Highlighting the latest natural gas technologies, products, and services, the exhibition showcases solutions that can be applied now. Browse during coffee breaks, the reception, and throughout the conference.

A Field Test of the Tracer Spacer for Maintaining Separation of Tracer Wire from PE Gas Mains During Construction

Allen Peterson, Daniel Wiser, and Ronald Kopalek, NYSEG Energy Technology Group

Non-Destructive Methods for Measurement of Stress in Bent Pipes

Shoichi Iimura, Tokyo Gas Company, Ltd.

Panel Discussion

Session 6

GAS QUALITY AND ENERGY MEASUREMENT III

Coffee and Exhibits

The Copper Strip Corrosion Test: Background, Pitfalls, and Improvements

Thomas Bruno, National Institute of Standards and Technology (NIST)

The Impact of Gas Quality on LNG Manufacture and Use

John Roberts, EFI

Vortex Sample Gas Heater

Lev Tunkel, Universal Vortex, Inc.

Experience with Control and Instrumentation Systems of Gas-Based (GE Gas Turbine) Cogeneration Plant

Samir Laskar, ONGC, India

Coffee and Exhibits

Investigation of a Simplified Natural Gas Heating Value Measurement Method Using Gas Chromatography and 6-Component Calibration Standards

Sherman Chao, Analytical Solutions, Inc.

Survey of New Methods for Measuring Trace Level Compounds in Fuel Gases

Karen Crippen, GTI

Panel Discussion

Session 7

ENVIRONMENTAL AND SITE REMEDIATION V

Coffee and Exhibits

Multi-Day Continuous Ambient Air Sampling During PCB and MGP Site Remediation

David H. Holcomb, Christopher H. Vail, Focus Environmental, Inc., Bob Field, U.S. EPA, Region 7, Warren Mueller, Ameren Services

A Detailed Look at the Design and Operational Aspects of an MGP Site Remediation Perimeter Ambient Monitoring Program

Leo Gendron, ENSR

In-Situ Electro-Heating Extraction of Coal Tar DNAPL

Joseph Chittet, Joan Gonzalez, Andreas Jazdanian, and Larry Milner, Burns and McDonnell, Nancy Huston, Nicor Gas, Stephen Clarke and Scott Stevenson, Geokinetics

Effect of Chromium Concentration in the Biocorrosion Process

Walter B. Cravo, Jr., and Francisca P. deFranca, Universidade Federal do Rio de Janeiro

Coffee and Exhibits

Coal Tar DNAPL Recovery: Combining an Understanding of Subsurface Conditions with Appropriate Recovery Well Design to Achieve Success

Bruce A. Wilkinson, Haley & Alrich, Inc., and Michele A. Vose, Massachusetts Electric Company

Development of Strategic Risk-Based Information for Management of Mercury-Contaminated Sites

Satya N. Varadhi and Vipul Srivastava, GTI, Ruddle J. Clarkson and Diane Wisbeck, Arcadis Geraghty & Miller

Environmental Benign Corrosion Inhibitors for Internal Pipe Corrosion

J. Robert Paterek and Tanita Sirivedhin, GTI

Panel Discussion

Session 8

ENVIRONMENTAL AND SITE REMEDIATION VI

Coffee and Exhibits

Permitting Challenges of Removing Coal Tar Deposits from the Connecticut River in Massachusetts

Jennifer Doyle-Breen and Antony Rodolakis, Metcalf & Eddy, Paul J. Boison, Northeast Utilities Service Company

AISI-1020 Carbon Steel Pipelines Biocorrosion-Related Biofilms Removal by Foamy Pigs

E. S. Torres, and F. P. deFranca, Universidade Federal do Rio de Janeiro

Design and Development of an Environmental Information Management System

Paul E. Ferri, Northeast Utilities Service Company, and Mary E. House, Woodard & Curran

Environmental Insurance Coverage—Past and Present

Joseph P. McGroarty, Fitzgerald, McGroarty & Lipari

Coffee and Exhibits

Studies Estimating the Dermal Bioavailability of Polynuclear Aromatic Hydrocarbons in MGP Coal Tar Contaminated Soils

T. A. Roy, Petrotec, Inc.

Ambient Air Monitoring and Risk Assessment in the Gas Utility Industry

Nasrin R. Khalili, Perin Congas, and Mital Desai, Illinois Institute of Technology, Satya N. Varadhi and Vipul Srivastava, GTI, Bruce A. Scamoffa, South Jersey Gas Company

Panel Discussion

Conference ends at 12:15 p.m.

REGISTRATION FORM

Natural Gas Technologies: What's New & What's Next

September 30-October 2, 2002 • Wyndham Palace Resort, Orlando, Florida

Delegate Registration

Please print or type. To register additional attendees, copy this form and submit a separate form for each registrant.

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Exhibit Hours. Exhibits will be open continually during the conference from 7:00 a.m. to 6:00 p.m. Monday and Tuesday and 7:00 a.m. to 11:00 a.m. Wednesday. Please make sure your booth is staffed during the coffee breaks (two each morning and one each afternoon) and the reception on Monday evening. The exhibition will be open to all attendees.

If your company is interested in reserving exhibit space, please fill out the form below and we will send you an exhibitor information package.

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Please indicate below which session you are interested in attending each day to help us allocate space.

Monday, September 30

- ☐ Session 1
Transmission and Distribution I
- ☐ Session 2
Transmission and Distribution II
- ☐ Session 3
Technical Spectrum
- ☐ Session 4
Combustion I
- ☐ Session 5
Odorization I
- ☐ Session 6
Gas Quality and Energy Measurement I
- ☐ Session 7
Environmental and Site Remediation I
- ☐ Session 8
Environmental and Site Remediation II
- ☐ Session 9
Emerging Resources I

Tuesday, October 1

- ☐ Session 1
Transmission and Distribution III
- ☐ Session 2
Transmission and Distribution IV
- ☐ Session 3A
LNG
- ☐ Session 3B
Transmission and Distribution V
- ☐ Session 4
Combustion II
- ☐ Session 5
Odorization II
- ☐ Session 6
Gas Quality and Energy Measurement II
- ☐ Session 7
Environmental and Site Remediation III
- ☐ Session 8
Environmental and Site Remediation IV
- ☐ Session 9
Emerging Resources II

Wednesday, October 2

- ☐ Session 1
Transmission and Distribution VI
- ☐ Session 2
Transmission and Distribution VII
- ☐ Session 3
CNG/NGV
- ☐ Session 4
Combustion III
- ☐ Session 5A
Fuel Cells
- ☐ Session 5B
Transmission and Distribution VIII
- ☐ Session 6
Gas Quality and Energy Measurement III
- ☐ Session 7
Environmental and Site Remediation V
- ☐ Session 8
Environmental and Site Remediation VI

Conference Events Registration

Please indicate below which events you plan to attend.

	Breakfast/ General Session	Lunch	Reception
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Tuesday	<input type="checkbox"/>	<input type="checkbox"/>	

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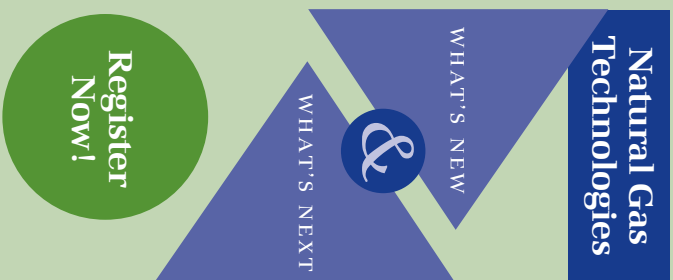
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